

REMARKS/ARGUMENTS

Support for new Claim 44 is found in previous Claims 22, 23, 27, and 33 as well as at specification page 7, lines 15-18, and page 9, last paragraph. These claims and portions of the specification, as well as specification page 14, lines 3-6, support new Claim 45. New Claims 46-51 are supported by previous Claims 24-26. New Claims 52-55 are supported by Claims 44 and 45. New Claims 56-61 are supported by Claims 44, 45, specification page 9, last paragraph, and specification page 12, first paragraph. New Claims 62-82, 85 and 86 are supported by Claim 30, Claim 31, Claim 34, specification page 14, third full paragraph, specification page 15, lines 6-10, Claims 36 and 37, Claim 38, Claim 40, and Claim 42. New Claims 83 and 84 are supported by Claims 44 and 45 and require the presence of at least one polymer having a heat deflection temperature of at most 80°C under a load of 1.82 MPa when measured according to ASTM D648 in the composition. No new matter has been entered.

As the Examiner will note, the issues pointed out in the rejection presented under 35 U.S.C. 112 have been addressed. As such, this rejection is no longer applicable.

The anticipation rejection over van Baal is traversed. van Baal relates to a colored thermoplastic composition and articles molded therefrom where the thermoplastic resin or resin blend has a glass transition temperature not less than about 170°C. See column 1, lines 7-9 and 56-59. The list of disclosed thermoplastic resins begins at column 2, lines 33 of the reference, and a description of possible colorants begins at column 2, line 53. TiO<sub>2</sub> is used in the Examples in an amount of up to about 3 percent with black pigment being used in an amount of about  $2.9 \times 10^{-4}$  - 0.3%. See Table 1 at cols. 7-8.

Thus, even if the disclosed PEI of van Baal as used in the Examples thereof were considered to be a polycondensation polymer meeting the heat deflection temperature requirements of present Claims 44 and 45,<sup>1</sup> the reference fails to disclose or suggest the use

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<sup>1</sup> Which Applicants do not concede.

of a white pigment in a concentration of at least 4 wt.%, as claimed and similarly fails to set forth the upper and lower limitations of the remaining claimed components. Accordingly, the anticipation rejection is no longer applicable.

With regard to obviousness, van Baal, even in view of Akkapeddi, fails to disclose the invention as presently claimed.

The present invention satisfies an existing need in the reflector art for polycondensation polymer compositions that do not yellow upon heat aging. As noted at specification page 2, yellowed reflector surfaces absorb blue light and are thus very inefficient reflectors for the LEDs. van Baal and Akkapeddi are directed to completely different problems: van Baal addresses problems encountered in the direct metalization of molded parts by providing a single phase amorphous thermoplastic resin or resin blend with high temperature stability, high surface smoothness, good adhesion to metal coatings, and ready detectability of surface defects. Akkapeddi, on the other hand, describes molding compositions characterized as having good gas barrier properties, and/or good physical strength characteristics, even under conditions of high humidity.

A complete review of van Baal reveals that nowhere in the reference is the particular combination of white and black pigment as claimed herein disclosed or suggested, nor does the reference recognized what is described in the paragraph bridging present specification pages 6-7: that the addition of a black pigment to the particularly claimed polycondensation polymer composition containing white pigment unexpectedly provides resistance to heat aging-induced yellowing of articles formed from such compositions, such as LED components. In this regard, the colorant amounts described in van Baal vary widely, with the preferred amounts being from  $1 \times 10^{-4}$  to about 0.5 parts per 100 parts resin by weight. See column 3, lines 42-47.

Perhaps most importantly, van Baal teaches that both TiO<sub>2</sub> and carbon black are to be *avoided* in the disclosed compositions:

We have found that articles molded from dark thermoplastic resin compositions make surface blemishes, such as splay and shark skin, more noticeable in visual inspections. Thus, the use of dark compositions facilitates visual identification of blemishes prior to metalization, thereby reducing waste and expense. In addition, a partially metalized article may have transparent portions that allow some light to escape. This escaped light may interfere with focusing the light from such a lamp; for instance an unmetalized ring of transparent resin surrounding the bulb opening can create an undesired halo around the bulb. The dark compositions of the invention prevent this problem. **We have also found that known opacifying techniques, such as the addition of standard colorants, like titanium dioxide or carbon black, and the addition of non-miscible polymers (such as polyolefins or polycarbonates), cause unacceptable losses of surface smoothness and gloss, and increased haze and diffuse reflectivity of the articles once metalized.**

See col. 2, lines 14-32 (emphasis added). This explains why the use of these materials in van Baal is in the comparative examples only (see col. 5, line 66 designating Examples A - I as comparative in van Baal). While such comparative examples may be used as evidence of accidental anticipation, they cannot be used to extrapolate therefrom as they represent a clear teaching away from the use of such materials in any other amounts, and the reference clearly does not identify them as result-effective variables useful in producing a result as has been found herein, i.e., that the addition of a black pigment to the particularly claimed polycondensation polymer compositions containing white pigment unexpectedly provides resistance to heat aging-induced yellowing of articles formed from such compositions.

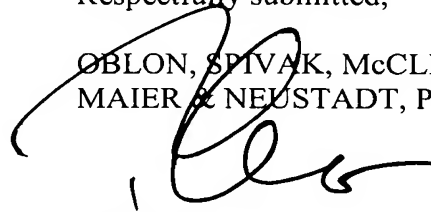
Akkapeddi similarly fails to disclose or suggest a particularly claimed combination of black and white pigments presently claimed, again simply suggesting broad ranges for pigment such as carbon black at column 10, lines 32-40. This suggestion does not overcome, or supplement, the difficulties presented by van Baal, as discussed above.

Because van Baal and Akkapeddi are each directed to different problems, and because neither of the references address the issues solved by the present invention nor

suggest the way in which the inventors have solved this problem, and in fact teach away therefrom, Applicants respectfully submit that one of ordinary skill in the art would not have been led to the particularly claimed invention as described in the above new claims even upon a full appreciation of van Baal and Akkapeddi. Accordingly, and because the cited references do not disclose or suggest Applicants' presently claimed invention, even in combination, Applicants respectfully request the reconsideration and withdrawal of the outstanding rejections, and the passage of this case to Issue.

Respectfully submitted,

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